

W5YI

National Volunteer Examiner Coordinator

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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A complete rundown on the
consideration that the FCC
gave to all the comments
Ralph Haller/Chris Imlay Address
Armed Forces Communications
& Electronics Association
...and much, much more!**

July 1, 1989

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FCC REFUSES TO RECONSIDER 220 MHz

At its June 15 meeting, the FCC denied petitions from the ARRL, the National Communications System ...and hundreds of amateurs and ham organizations asking for reconsideration of its decision to allocate 220-222 MHz exclusively to the Land Mobile Service and 222-225 MHz exclusively to Amateur Radio.

The reconsideration item was presented to the FCC Commissioners by the FCC's *Office of Engineering and Technology*. The principal presentation was made by Fred Thomas ...with OET's Dr. Tom Stanley and Julius Knapp also in attendance.

Thomas said that a number of factors were important considerations in reaching a decision. "...there was a need to provide spectrum for the Land Mobile Service to foster the development of spectrum efficient narrowband technology. Such technology is expected to play an important role in the long-term solution in the continued growth of the Land Mobile Service."

Thomas said "...the *National Telecommunication and Information Administration (NTIA)*, in its capacity as spokesman for the Executive Branch on spectrum management matters, expressed a requirement for government use of a portion of this spectrum for narrowband Land Mobile systems. At the same time, the Commission was concerned about the needs of the Amateur Service."

"The *Report and Order* concluded that the public interest would be best served by a compro-

mise of allocating two megahertz, the 220-222 MHz, to the Land Mobile Service, and the upper three megahertz to the Amateur Service."

"In response to the *Report and Order*, the Commission received about 700 petitions from amateur groups and individual amateurs. In general, the petitions argued that the entire 220-225 MHz frequency band should be allocated to the Amateur Service on a primary basis. ...Amateurs contend that the Commission has not given adequate consideration to the alternative allocations for the Land Mobile Service, particularly to the use of the spectrum in the 216 to 220 MHz band. We have considered a wide variety of alternatives at length, including the use of the 216-220 MHz band. However, none provided satisfactory solution."

"Use of the 216-220 MHz band for the Land Mobile Service substantially increased the risk of interference to TV channel 13 stations operating in the 210-216 MHz band. The restrictions needed to avoid interference would be so severe to make the spectrum unusable for Land Mobile Service in many major urban areas. Also Land Mobile use of the 216-220 MHz band would not be compatible with the existing automated maritime telecommunications systems operating in the Mississippi River and the Gulf of Mexico."

"Amateurs assert that contrary to the Commission's conclusion in that *Report and Order*, it will not be possible to reaccommodate existing amateur operations in the 220-222 MHz band in the

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amateur secondary access to 216-220 MHz, the FCC did note that there are "potential concerns about the use of the spectrum by the amateur service and that additional justification would need to be provided in any petition that may be submitted."

The FCC's suggestion of secondary access undoubtedly resulted from the continuing Congressional interest in the reallocation, particularly from members of the *House Government Operations* committee, whose *Subcommittee on Government Information, Justice and Agriculture* convened a hearing on the matter (see *W5YI Report ;Volume 11 Issue 10*).

On June 7, subcommittee chairman Bob Wise followed up with a letter to FCC chairman Dennis Patrick. Wise wrote: "One of the things that struck me as I listened to the testimony of the various witnesses is that perhaps too little thought has been given to potential compromises that might serve the needs of each of the various parties." In light of this, Wise submitted four alternative scenarios for the FCC's consideration:

SCENARIO 1: Amateurs retain 220-225. Land mobile goes to 218-220 MHz. Wise conceded that there could be an increase in TVI from land mobile and that existing fixed service operations may have to be shifted.

SCENARIO 2: Amateurs retain 220-221 and 222-225. Land mobile gets 219-220 and 221-222. Amateurs secondary at 216-219 MHz. Rep. Wise noted that a benefit of this plan would be additional spacing between base and mobile channels for land mobile; and the fact that ham operations at 221-222 are mostly point-to-point and more easily reaccommodated elsewhere than weak-signal work.

SCENARIO 3: Amateurs retain 221-225 MHz. Land mobile at 219-221, amateurs secondary at 216-219 MHz. This would provide "national channels" for both land mobile and amateur. It would involve reaccommodation of amateur operations and of fixed service use of 219-220.

SCENARIO 4: As adopted by the FCC, but with additional amateur secondary allocation at 216-220 MHz. It is this proposed scenario that the Commission appears most willing to entertain. Rep. Wise noted, "In all of these scenarios there needs to be retention of amateur capabilities in metropolitan areas where present and desirable future activity at

220-222 MHz cannot be shifted on top of what already exists at 222-225 MHz. The protection of channel 13 television reception from harmful interference is also important, as is the protection of existing fixed and waterways-related mobile activity at 216-220 MHz. The protection of DOD/NCS interests is also of concern to me." Rep. Wise said it is his desire that the FCC "make sure that every possible compromise solution is considered before it takes action on the pending petitions for reconsideration."

ARRL: "NEXT STOP, FEDERAL COURT!"

"The Commission's action today is a disappointment, but not a surprise," commented ARRL Executive Vice President **David Sumner, K1ZZ**. "The entire history of this proceeding is one of the Commission ignoring evidence that did not support its preconceived position. Now it will be up to the federal Court of Appeals to determine whether, by so doing, the Commission overstepped its bounds." Sumner observed that the ARRL Executive Committee had already decided to ask the *U.S. Court of Appeals* for the D.C. Circuit to review the FCC decision in the event the Commission refused to reconsider the matter on its own.

"During the [Congressional] hearing, we observed a number of occasions where the FCC testimony overlooked evidence in the record, or contradicted what the Commission had said last August when the decision was made," Sumner said. "We had hoped that their significance would not be lost to the FCC, and that we wouldn't be forced to go to court to point them out. Instead, in the course of today's meeting the Commission reverted to the rhetoric of last August."

Commenting on the chance of possible shared use by amateurs of the 216-220 MHz band, Sumner said, "We don't hold out much hope of this coming to pass. The way for the Commission to demonstrate sincerity would have been to deal with this possibility now, rather than to relegate it to some uncertain future time."

Amateurs use the 220 to 222 MHz frequency band for a variety of purposes, including development of a state-of-the-art intercity data communications network that offers a backup emergency communications capability to the government and the general public. No date has been set by FCC for terminating amateur access to the band.

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ARRL \$PART 15 MOTION DENIED

The FCC has denied the ARRL's motion to stay (prevent) the implementation of the new \$Part 15 rules (W5YI Report, Jun. 15, 1989). The new rules deregulate much of \$Part 15, which governs most nonlicensed radio devices. New low-power consumer products will be allowed on many bands. These bands include amateur spectrum and the spectrum of most other radio services. Several "general" bands were also set aside for slightly higher (but still very low) power levels. The general bands are in Industrial-Scientific-Medical spectrum in which amateurs are allowed to operate.

The ARRL argued that the general radiation limits for \$Part 15 devices are too high. It warned against the co-location of \$Part 15 devices and amateur stations in residential areas in the same frequency bands. It argued that, to the extent the FCC permits \$Part 15 operations in bands allocated for ham use, interference will result and amateurs will be irreparably harmed. ARRL submitted documentation of an interference analysis model which claimed that significant interference will be caused to amateurs from \$Part 15 devices.

Disputing the ARRL's position, the FCC said that "Many of the changes in \$Part 15 either do not affect amateur operations or would actually reduce the potential that interference would be caused to amateurs." FCC noted that the only change in emission limits at 1.705- 10 MHz was to "reduce interference potential by placing a limit on peak emissions. ...Between 10 MHz and 30 MHz, because of the change in measurement technique from average to quasi-peak, the new limit is not substantially, if at all, higher than under the former rules. Indeed, depending on the form of modulation used, emissions limits in this band may be considerably less."

The Commission said that under these circumstances, it is unnecessary to examine the "predictive virtues" of ARRL's interference analysis model. Between 30 and 900 MHz, the FCC said, ARRL's calculations assumed no attenuation due to intervening objects and assumed average [old rules] rather than quasi-peak emission limits [new rules]. "Predictions of interference based on these assumptions are not persuasive," the agency said, pointing out that the ARRL also assumed no attenuation from objects in the general bands above 900 MHz.

"Although we appreciate the League's fears of increased interference in the bands discussed above, they are unfounded," the Commission continued. "We are unaware of any interference to amateur operations from \$Part 15 transmitters in the 1.705-30 MHz band. The large numbers of licensed users of these bands effectively preclude the general operation of \$Part 15 devices. Only those devices used in relatively shielded areas can be used at the \$Part 15 emission limits. It is not likely that this situation will change." The FCC said a similar situation exists in the spectrum 30-900 MHz.

FCC noted that there have been thousands of \$Part 15 field disturbance sensors [security devices] operating above 900 MHz on frequencies allocated to the amateur service for a number of years, at "significantly higher emission levels than permitted under the new rules. Based on the League's calculations, widespread interference to amateurs should be expected. In fact, interference from these devices does not appear to be a problem."

The Commission's action denies only the ARRL's motion for stay, and two other motions for stay filed for unrelated reasons by the Linear Corp. and Sensormatic Electronics, makers of security and anti-shoplifting devices. The agency did not rule on any of the 17 petitions for reconsideration filed in the proceeding. Based on this FCC denial however, it would seem that there is not a high probability of success for the ARRL petition.

- On May 25, 1989, U. S. Marshals and officials from the Philadelphia **FCC office raided Jade Electronics** in Trevoze, Pennsylvania. Confiscated were over \$30,000 worth of illegal CB transceivers and linear amplifiers manufactured in the Far East and imported into the United States for illegal sale. Jade's import and distribution business records showing sales all over the United States were also seized. Operators of Jade Electronics face fines of up to \$200,000 and one year in prison.

- Wayne Yoshida, KH6WZ, of Kenwood Communications tells us that their firm is now accessible via computer modem. The **Kenwood BBS (Bulletin Board System)** now operates on a trial basis between 5:00 p.m. and 8:00 a.m. Pacific time - Monday through Friday and 24 hours Saturday, Sunday and holidays. System parameters: 2400 baud (or slower), 8 bits, 1 stop bit, no parity. Telephone number: (213) 761-8284.

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MAY VE PROGRAM STATISTICS

<u>May</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
<u>No. VEC's</u>	<u>*59</u>	<u>*62</u>	<u>*62</u>
Testing Sessions	400	484	520
VEC	1987	1988	1989
ARRL	45.3%	39.9%	39.6%
W5YI	26.8	36.4	36.2
CAVEC	6.3	6.0	6.7
DeVry	8.0	5.4	4.6
Others	13.3	12.4	12.9
Year-to-Date Sess:	1790	2002	2247
Elements Administ.	8160	9817	10440
VEC	1987	1988	1989
ARRL	50.4%	51.1%	41.9%
W5YI	21.6	25.3	31.9
CAVEC	8.8	7.6	9.4
DeVry	6.4	3.9	3.2
Others	12.8	12.1	13.6
Year-to-Date Elem.	34543	41576	43073
Applicants Tested	4931	5858	6169
VEC	1987	1988	1989
ARRL	48.4%	47.0%	41.8%
W5YI	22.1	26.3	31.1
CAVEC	3.5	6.9	8.8
DeVry	6.5	4.2	3.4
Others	19.5	15.6	14.9
Year-to-Date Tested	22047	24504	25493
May	1987	1988	1989
Pass Rate - All	60.9%	60.8%	62.1%
Pass Rate - W5YI	59.4%	57.5%	59.9%
Applicants/Session	12.3	12.1	11.9
Appl./Session W5YI	12.1	9.2	9.7
Elements/Applicant	1.7	1.7	1.7
Sessions Per VEC	6.8	7.8	8.4

Administrative Errors by VE's/VEC's

<u>May</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Defect. Applications	0.3%	0.4%	0.4%
Late Filed Sessions	2.0%	2.3%	0.8%
Defective Reports	0.8%	0.6%	2.3%

*Note:

The FCC Considers ARRL, W5YI and DeVry to be 13 VEC's each since VEC's are appointed on a regional basis. The 13 regions are: Call Sign districts 1 through 0 plus Alaska (11), Caribbean (12) and Pacific Insular areas (13).

Source: Pers.Rad.Branch/FCC; Washington, D.C.

ELECTROMAGNETIC FIELDS: DANGEROUS

Experts are now warning that electromagnetic fields from common electrical power systems may pose a health hazard. They conclude that electromagnetic fields interact with the membranes that envelop every living cell, sometimes interfering with the production of new proteins ...and sometimes causing cells to manufacture new proteins.

Analysts at the congressional *Office of Technology Assessment (OTA)* now believe that even extremely weak electric and magnetic fields - created whenever electricity flows - may affect human health. The OTA study was conducted at the request of the *House Subcommittee on Waste and Power Resources*, which was concerned about the potential health effects of high-voltage transmission lines. Congressional experts say transmission lines are only one source of exposure. Similiar fields are produced by wall wiring, appliances, lighting fixtures and utility distribution lines.

The study is the first comprehensive survey of the scientific evidence on the safety of electric power transmission. Its conclusions contradict a longstanding belief that extremely weak electromagnetic fields are biologically harmless. The OTA study says potential effects of electromagnetic fields range from subtle changes in stress levels and memory lapses ...to cancer, miscarriages and impaired fetal development.

Dr. Granger Morgan of Carnegie-Mellon University helped prepare the OTA study. While admitting the evidence is "inconclusive," Morgan said "...if I were a pregnant woman, I'd stop sleeping under an electric blanket." Other preliminary studies link an increased risk of childhood cancer to the use of heating pads, water bed heaters and electric heat during pregnancy. Karen Larsen, Senior Analyst for the OTA study said the evidence is pretty strong and "...something that should be of concern. It deserves to be taken seriously."

Researchers suggest the following safety measures:

- (1.) Routing new electric transmission lines so they avoid people.
- (2.) "Widening existing transmission line rights-of-way to prevent nearby development.
- (3.) Developing new ways of wiring homes and office buildings.
- (4.) Redesigning appliances to minimize the electromagnetic fields they generate.

THE NEW PART 97 HAM RADIO RULES!

We have now received the full text of the **Report and Order** "In the Matter of Reorganization and Deregulation of §Part 97 of the Rules Governing the Amateur Radio Service" ...in other words, the rewrite of the ham radio regulations

The majority of the commenters agreed that the revision was necessary and timely and recommended further improvements. Those contesting the Rules rewrite were generally concerned that it would increase regulation of the amateur service. Some argued for reconsideration of past proceedings concerning such topics as transmitter power measurement, repeater coordination, and operator license requirements and privileges.

Other amateurs wanted to raise new regulatory issues ...such as increasing performance standards for VEs/VECs, prohibiting the use of an amateur station to bypass public telephone toll charges, adding rules for stations engaged in direction finding practice ...and increasing membership requirements for club station license renewals. The FCC has digested the comments and has now rewritten §Part 97 into a more meaningful, easy-to-use body of regulations. It contains about 25% less wording.

BASIS & PURPOSE: Several amateurs wanted to add a sixth principle of purpose. Among these were: "Provide a medium for the free exchange of information and discussion in all areas of human knowledge ...Discuss, understand and cope with our present day world ...Stimulate knowledge, especially in science and education ...or Basic and applied electronic education." The FCC went along with the ARRL's suggestion that no change in the "Basis and Purpose" is necessary since the present principles do not prohibit any area of knowledge.

QUIET HOURS: The FCC said they did not agree with the League contention that their originally proposed quiet hours rule violated the principle of due process of law. In view of the very widespread opposition, however, the FCC reverted back to the present quiet hours wording which (1.) provides for certain specific time periods for the imposition of restrictions against amateur station transmissions interfering with stations in other services and (2.) other unspecified steps as may be necessary to minimize interference after FCC investigation.

PERMISSIBLE COMMUNICATIONS: There

were many comments regarding what was permissible and prohibited amateur radio communications ...including communications in logistical support of public gatherings, amateurs selling personally owned equipment on the air, broadcast related activities, retransmitting signals and programming of stations in other radio services, etc. The ARRL had suggested that amateur stations be authorized to retransmit on the amateur service 6 meter and shorter wavelength bands, the weather, propagation and time bulletins by Dept. of Commerce stations since "...the use of these bulletins is of direct interest to the amateur service."

The Commission agreed on the need for a proper balance in the rules. Non-commercial "swap nets" will be permitted on the amateur airwaves providing goods are offered on an irregular basis without a profit motive, but retransmitting signals from other services will remain prohibited.

EMERGENCY COMMUNICATIONS: Amateurs temporarily bridge the gap when disaster strikes and normal communications systems are overloaded, damaged or disrupted. Amateur stations should not be used, however, as an alternative to other authorized radio services. When a disaster strikes, the FCC may declare a temporary state of communication emergency. The declaration will set forth any special conditions and rules to be observed.

The FCC said they would allow amateur communications that relate to the public's safe observation and participation in a parade, marathon or similar public event if the principal beneficiary is the public and any benefit to the sponsor is incidental. "...avoiding the cost of obtaining communications in the proper radio service is not a valid basis for using amateur service facilities," the FCC said.

NEWS GATHERING: The RTNDA (*Radio-Television News Directors Association*) asked the FCC to broaden the limited circumstances when a ham station might transmit communications for news journalists.

News gathering/reporting transmissions directed to foreign countries can not be permitted because the international radio regulations limit communications to unimportant remarks of a personal character and aiding worldwide relief efforts in natural disasters. The transmission of reports for journalists must not detract from the emergency communications of other amateur stations.

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RACES: The FCC agreed that RACES tests and

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drills of longer than one hour duration are justified in certain circumstances where an emergency planning official specifically approves the drill or test.

ANTENNA STRUCTURES: The FCC agreed with the League that the inclusion of PRB-1, the limited preemption of state and local regulations that govern the height and placement of antenna structures, in the Rules would encourage cooperation and dialogue between local communities and amateur operators." PRB-1 is now included in §Part 97.

GOOD AMATEUR PRACTICE: Many commenters wanted the term "Good amateur practice" expanded. The FCC has consolidated the good amateur practice requirement with the requirements concerning frequency selection, frequency sharing and malicious interference in a new rule entitled: "General Standards" which highlights key practices that an amateur operator should utilize.

ALIEN RECIPROCAL OPERATING PRIVILEGES: The FCC agreed that reciprocal amateur operating permits are not included in the Communications Act restriction against issuing authorizations (licenses) to foreign governments or their representatives. A representative of a foreign government is no longer barred from holding a reciprocal permit.

STATION IDENTIFICATION: The FCC clarified the rules to permit the use of any suitable word denoting the slant mark, such as "stroke" or "temporary". Self-assigned suffix identifiers are permitted providing they include the station call sign during the identification process. Eliminated was the required suffix identifiers for repeater, auxiliary and beacon stations.

REPEATER STATIONS: The FCC noted the ARRL's suggestion that the requirement for discontinuance of transmissions from a repeater after cessation of transmission by a user be increased to ten seconds ...also Ray Adams' comment suggesting deletion of the restriction that a repeater cannot transmit on more than one channel from the same location. The FCC said these rules predated repeater coordination and has deleted these unnecessary restrictions in the new §Part 97.

OPERATION ABOARD AIRCRAFT: The Federal Aviation Administration (FAA) rule prohibiting amateur station operation aboard any aircraft operating under Instrument Flight Rules (IFR) unless the station apparatus has been found to comply with all

applicable FAA rules is now incorporated into the amateur rules. The new §Part 97 Rules are effective September 1, 1989.

[Action by FCC, PR Docket 88-139 released 6/9/89]

NEW §PART 97 AMATEUR RADIO SERVICE RULES \$2.00 each postpaid

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The new §Part 97 Rule Book is now ready for immediate shipping. These booklets not only contain the entire text of the new Rules, but the entire *Report & Order* detailing amateur comments on the Rules revision ...and FCC consideration given to them.

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HALLER, IMLAY AT AFCEA

On June 22, FCC Private Radio Bureau Chief **Ralph Haller, N4RH** and ARRL Counsel **Chris Imlay, N3AKD** lectured to the annual Amateur Radio banquet of the **Armed Forces Communications and Electronics Association (AFCEA)** in Washington, D.C. AFCEA is a 40,000-member organization of users and vendors of military communications products and services.

Haller offered a thought-provoking review of the uses of spectrum and challenges of the future. Imlay congratulated FCC on the §Part 97 rewrite ...and brought latest ARRL regulatory news. Here are excerpts from the two presentations on topics of timely interest to hams:

N4RH ON §PART 97 REWRITE: "This was our major project of the year. We tried to make the rules much more understandable. We tried to make them match today's technology. The new rules become effective on Sept. 1. We received 173 comments in response to our NPRM. Many of the comments went to issues well beyond the scope of the rewrite, however, ...and some sought reconsideration of past proceedings. Others wanted to raise new regulatory issues, ...or wanted to debate requirements set forth in the *Communications Act* or the *ITU Radio Regulations*.

"Such matters previously decided in other proceedings or new regulatory issues first raised in these comments were not addressed in this rule-making. The rule making was really intended to clarify the rules that were there, as opposed to making major policy changes.

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"Unlike the rules in most of the other radio services, §Part 97 now avoids the how-to specifics of amateur radio communication systems. Instead, it tries to simply state basic requirements that each operator and each station must observe. This lets you use your individual ingenuity, to develop communication systems tailored to your own interests and skills."

ON SPECIAL CALLSIGNS (PRB-3): We were seeking ways for you to obtain a callsign of your choice from private sector organizations. We had 13 individual organizations interested in doing the work. PRB-3 had to be terminated, regrettably, because accessing a private contractor's database, monitoring the system and resolving disputes were simply beyond the resources of the Commission. At this point, we're also unable to offer the service ourselves.

"Now, we know that many of you would like to pick your own callsign. We have not granted a special callsign in 11 years. Even so, we still get about 250 requests each year for special callsigns. We don't have the resources to grant them, so to treat everyone equally and fairly, we don't grant any of them.

"A special callsign system is much more labor-intensive than our current automated system. The automated system assigns callsigns sequentially based on the mailing address and class of license. Prior to 1978, the FCC administered a mini-special callsign system. In it, we issued about 3,600 non-primary station licenses such as military recreation, secondary, club and RACES licenses, and special callsigns for Extra class licensees who met certain conditions.

"Remember, that's 3,600 licenses. In order to do that, we had a staff of six people. To administer the rest of the amateur licenses, which was 120,000, it took five people. Our automated system allows us today to process all of the amateur licenses, new, renewal and modifications, with just 2.5 persons. The automated system has helped us meet the demand for amateur licensing with half of the staff that it used to take to process the non-special callsigns."

ON CONSUMPTION OF SPECTRUM: "It was only the turn of the century when Marconi made the first radio systems work. Yet, think of your typical day. You wake up to a clock radio. You turn on a

light that derives power from a power grid controlled by radio.

"During the night, police, fire and emergency services have been using radio to ensure safety. Your breakfast is cooked by a microwave oven. You watch the weather radar and news reports on TV. These signals were delivered to the TV station by satellite. You use a cordless telephone to make a call. On your way out, you may trip over the radio controlled toys that the kids have left. You use a radio controlled garage door opener.

"On your way to work, you place a call on your cellular telephone ...and listen to a Top-40 radio station. Traffic lights you pass are controlled by radio. You hold to the speed limit because the police have radar. The skyline is shadowed by construction cranes that are controlled by radio.

"If you're like me, you commute to work on the Metro [D.C. subway], where a radio system links the high-speed trains to a master computer. You read a newspaper distributed by satellite. When you arrive at your workplace, music delivered by radio greets you at the elevator.

Your desktop terminal uses radio to connect to the local network so that you can do your job, whatever you do. In our case, it's answering letters about the importance, or lack thereof, of Morse Code. [Laughter.]

"Radio systems monitor petroleum and utility consumption, and they provide paging service. I haven't even mentioned the uses of radio in military, aviation and marine services ...or in space. Amateurs know that we've barely scratched the surface of the potential of radio. Look at what's on the horizon: High-definition television ...Advanced cellular systems ...Direct-broadcast satellites ...Nationwide land mobile services ...More and more appliances based on radio technology ...Computers using radio frequencies, causing potentials for interference to the amateur service.

"Demand for spectrum increases daily. In fact, the rate of demand increases every day. But we've nearly consumed the entire radio spectrum in less than a single lifetime. It's kind of frightening to think about it. Where do we go from here? Can we continue on our merry way of letting each service promote its own narrow interest? I think not. We've got to start working together. If we don't do that,

among all the users that need radio, we're going to suffer the consequences. I hope the various radio services can work together to accommodate everyone's needs.

"One way to do that might be to change from analog to digital systems. We've just granted a waiver to a specialized land mobile operator who plans to use digital, and claims a 10-times improvement in spectrum efficiency. That's the kind of thing that we all need to be working for. The amateur radio community has the potential to offer solutions. You have the spectrum, you have the technology available to you to help develop the new radio systems that will lead us into the 21st century. In the rules rewrite, the Commission made it clear that it wants to encourage the experimental nature of the amateur radio service. You people have a green light. The amateur service is free to branch out into an infinite number of different paths.

"We're encouraged by two significant examples of how the amateur community goes forward on its own. The first is repeaters. It boggles the mind to realize that there's a network of over 12,000 repeaters in this country. Amateurs did this completely on their own, without government funding and mostly on volunteer time. That is phenomenal.

"The other is the volunteer examining system. Last year, over 10,000 volunteer examiners administered over 90,000 elements to 54,000 people at nearly 5,000 exam points. Another 18,000 passed the Novice test. We haven't had a single complaint since we put the VEC system in about the lack of opportunity to take an amateur test. And that's something we as a government couldn't do. When we gave the tests, we had very restricted hours ...and few exam points. The amateurs really took on this program and made it work. We could not be more pleased."

"Let these two systems serve as models of how the amateur community can work together to find new solutions. I predict that you will meet the challenge to help us find more efficient communication systems. The amateur service will play a very important role in meeting the public's expanding need for communications. Please take advantage of the multitude of opportunities available through amateur radio.

"Oh yes, one other thing. While you're en-

joying your hobby, bring a friend along. Both of you will be glad you did."

CHRIS IMLAY ON \$PART 97 REWRITE:

"Ralph Haller didn't blow the Commission's horn loudly enough. The document is excellent. It is a major overhaul and a great simplification of the amateur service rules. It won't scare you away like the old \$Part 97 did -- it's a user-friendly document. It flows very logically. It doesn't exactly bear a great deal of resemblance to the version of the rules that the ARRL submitted as comments. It's improved on that, it's a dynamite document.

"The new rule rewrite contains a very explicit section on the Commission's preemption of local antenna regulation, incorporating the basic terms of the PRB-1 order. This will be a very useful tool when amateurs are confronted with state or local restrictions on antennas.

ON NO-CODE: "The Commission has before it six or seven rulemaking petitions asking for a no-code license. It's been fascinating to me that in a period of about three or four years, the public sentiment seems to have changed somewhat on the subject of no-code. When the FCC came up with its previous no-code proposal, the comments ran roughly 20 to 1 opposed. There were about 5,000 comments filed in the proceeding.

"Now, however, you hear more and more about the concept and the ARRL put together a committee to study it. ...The committee recommended that a no-code license might be a good idea. The committee's recommendation will be taken up shortly, at the end of July. The board of directors is now in general surveying attitudes of amateurs around the country.

ON 220 MHZ: "The FCC denied the petitions for reconsideration. The reallocation was reaffirmed and it's going to be the League's next step to ask the U.S. Court of Appeals to consider the matter, not as to the wisdom of the decision ...but as to any procedural improprieties that might have existed in the decision."

ON W1AW: "The League is about to rededicate a reconstructed W1AW station, which technologically will be a lot better than the last one. It's been rebuilt top to bottom, and perhaps those out west will get better service out of W1AW than heretofore."